



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2020-0364; Project Identifier MCAI-2019-00119-E]**

**RIN 2120-AA64**

### **Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Type Certificate Previously Held by Rolls-Royce plc) Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Supplemental notice of proposed rulemaking (SNPRM).

**SUMMARY:** The FAA is revising a notice of proposed rulemaking (NPRM) that applied to all Rolls-Royce Deutschland Ltd & Co KG (RRD) Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 model turbofan engines. This action revises the NPRM by requiring revision of the engine Time Limits Manual (TLM) life limits of certain critical rotating parts and direct accumulation counting (DAC) data files, as specified in a European Union Aviation Safety Agency (EASA) AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products. Since these actions would impose an additional burden over those in the NPRM, the agency is requesting comments on this SNPRM.

**DATES:** The FAA must receive comments on this SNPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For material that is proposed for IBR in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu). You may find this material on the EASA website at <https://ad.easa.europa.eu>. For RRD service information identified in this SNPRM, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; phone: +44 (0)1332 242424; fax: +44 (0)1332 249936; website: <https://www.rolls-royce.com/contact-us.aspx>. You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759. The EASA material is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, this SNPRM, the EASA AD, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Kevin M. Clark, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7088; fax: (781) 238-7199; email: kevin.m.clark@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2020-0364; Project Identifier MCAI-2019-00119-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may again revise this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

**Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this SNPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this SNPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public

docket of this SNPRM. Submissions containing CBI should be sent to Kevin M. Clark, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA issued an NPRM to amend 14 CFR part 39 by adding an AD that would apply to all RRD Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 model turbofan engines. The NPRM published in the *Federal Register* on April 10, 2020 (85 FR 20216). The NPRM was prompted by the manufacturer revising the engine TLM life limits of certain critical rotating parts and DAC data files. In the NPRM, the FAA proposed to require operators to revise the airworthiness limitation section (ALS) of their approved aircraft maintenance program (AMP) by incorporating the revised tasks of the applicable TLM for each affected model turbofan engine.

## **Actions Since the NPRM was Issued**

Since the FAA issued the NPRM, RRD has revised the tasks of the TLM for affected engines, updating the life limits of certain critical rotating parts and updating the DAC data files. RRD published Rolls-Royce Trent 1000 TLM T-Trent-10RRC, Chapters 05-10 and 05-20, Revision 20, both dated August 1, 2020.

Additionally, since the FAA issued the NPRM, EASA, which is the Technical Agent for the Member States of the European Union, superseded AD 2019-0058R1, dated April 2, 2019, with AD 2020-0241, dated November 5, 2020 (EASA AD 2020-0241), to require updates to the life limits and the DAC data files for affected engines.

## **Comments**

The FAA received one comment on the NPRM from The Boeing Company (Boeing). The agency considered the comment received. Boeing supported the NPRM without change.

## **FAA's Determination**

These engines have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified about the unsafe condition described in the EASA AD referenced in this proposed AD. The FAA is issuing this SNPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design. Certain changes described above expand the scope of the NPRM. As a result, it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this SNPRM.

## **Related Service Information under 1 CFR Part 51**

The FAA reviewed EASA AD 2020-0241. EASA AD 2020-0241 requires accomplishment of the actions specified in RRD's updated TLM for affected engines as specified in Rolls-Royce Trent 1000 TLM T-Trent-10RRC, Chapters 05-10 and 05-20, Revision 20, dated August 1, 2020. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Proposed AD Requirements in this SNPRM**

This proposed AD would require accomplishing the actions specified in EASA AD 2020-0241, described previously, as incorporated by reference, except for any differences identified as exceptions in the regulatory text of this proposed AD and except as discussed under "Differences Between this Proposed AD and the EASA AD."

## **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA initially worked with Airbus and EASA to develop a process to use certain EASA ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and civil aviation authorities (CAAs) to use this process. As a result, the FAA proposes to incorporate EASA AD 2020-0241 in the FAA final rule. This proposed AD would require compliance with EASA AD 2020-0241 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Using common terms that are the same as the heading of a particular section in EASA AD 2020-0241 does not mean that operators need comply only with that section. For example, where the AD requirement refers to "all required actions and compliance times," compliance with this AD requirement is not limited to the section titled "Required Action(s) and Compliance Time(s)" in EASA AD 2020-0241. Service information specified in EASA AD 2020-0241 that is required for compliance with it will be available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364 after the FAA final rule is published.

## **Differences Between this Proposed AD and the EASA AD**

This AD does not mandate the "Maintenance Tasks and Replacement of Critical Parts" and "Corrective Action(s)" sections of EASA AD 2020-0241. Where EASA AD 2020-0241 requires compliance from its effective date, this proposed AD requires using the effective date of this AD. Where EASA AD 2020-0241 requires operators revising the approved AMP within 12 months from its effective date, this proposed AD requires revising the approved AMP within 90 days after the effective date of this AD. This AD does not mandate compliance with the "Remarks" section of EASA AD 2020-0241.

## **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 20 engines installed on airplanes of U.S. Registry.

The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Revise the AMP	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$1,700

**Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc):** Docket No. FAA-2020-0364; Project Identifier MCAI-2019-00119-E.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc) (RRD) Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 model turbofan engines.



**(d) Subject**

Joint Aircraft System Component (JASC) Code 7200, Engine  
(Turbine/Turboprop).

**(e) Unsafe Condition**

This AD was prompted by the manufacturer revising the engine Time Limits Manual (TLM) life limits of certain critical rotating parts, updating direct accumulation counting (DAC) data files, and updating certain maintenance tasks. The FAA is issuing this AD to prevent the failure of critical rotating parts. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified in paragraph (h) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, European Union Aviation Safety Agency AD 2020-0241, dated November 5, 2020 (EASA AD 2020-0241).

**(h) Exceptions to EASA AD 2020-0241**

(1) The requirements specified in paragraphs (1) and (2) of EASA AD 2020-0241 are not required by this AD.

(2) Where EASA AD 2020-0241 requires compliance from its effective date, this AD requires using the effective date of this AD.

(3) Paragraph (3) of EASA AD 2020-0241 specifies revising the approved AMP within 12 months after its effective date, but this AD requires revising the existing approved AMP within 90 days after the effective date of this AD.

(4) This AD does not mandate compliance with the “Remarks” section of EASA AD 2020-0241.

**(i) No Reporting Requirement**

Although the service information referenced in EASA AD 2020-0241 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (k)(2) of this AD. Information may be emailed to: ANE-AD-AMOC @faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

(1) For more information about EASA AD 2020-0241, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone: +49 221 8999 000; email: ADs@easa.europa.eu. You may find this material on the EASA website at <https://ad.easa.europa.eu>. You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759. This material may be found in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364.

(2) For more information about this AD, contact Kevin M. Clark, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7088; fax: (781) 238-7199; email: [kevin.m.clark@faa.gov](mailto:kevin.m.clark@faa.gov).

(3) For RRD service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; phone: +44 (0)1332 242424; fax: +44 (0)1332 249936; website: <https://www.rolls-royce.com/contact-us.aspx>. You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Issued on September 14, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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